

CLAIMS

Please amend the claims as follows.

1. (Currently amended) A method, comprising:
selecting a plurality of corners within an original image projected as a distorted image on a projection surface using an input from a user through a graphical user interface; and
predistorting the original image to account for any keystone distortion responsive to the selecting, where the predistorted image exhibits no keystone distortion when projected on the projection surface and the predistorting comprises vertically scaling and horizontally scaling the original image using a vertical scalar and a horizontal scalar according to the plurality of corners, respectively.
2. (Previously presented) The method of claim 1 comprising:
aligning a center of the original projected image with a center of the projection surface.
3. (Original) The method of claim 2 where the distorting is responsive to the aligning.
4. (Original) The method of claim 2 where the aligning is before the selecting.
5. (Original) The method of claim 2 comprising fixing a center of the predistorted image coincident with the center of the projection surface.
6. (Original) The method of claim 1 where the selecting comprises selecting two corners of the image.
7. (Original) The method of claim 1 where the selecting comprises selecting four corners of the image.
8. (Currently amended) A method, comprising:
selecting a plurality of corners within an original image projected as a distorted image on a projection surface using a graphical user interface; and

predistorting the original image responsive to the selecting, where the predistorted image exhibits no distortion when projected on the projection surface;

where the selecting comprises using an on screen display means to do the selecting; and

where the predistorting the image comprises vertically scaling and horizontally scaling the original image using a vertical scalar and a horizontal scalar according to the plurality of corners, respectively.

9-10. (Cancelled)

11. (Currently amended) A method, comprising:

selecting a plurality of corners within an original image projected as a distorted image on a projection surface using a graphical user interface; and

predistorting the original image responsive to the selecting, where the predistorted image exhibits no distortion when projected on the projection surface;

where the predistorting the image comprises scaling the image;

where the scaling comprises vertically scaling the image according to the plurality of corners; and

where the vertically scaling comprises calculating vertical scalar registers.

12. (Previously presented) The method of claim 11 where the scaling comprises horizontally scaling the image.

13. (Original) The method of claim 12 where the horizontally scaling comprises calculating horizontal scalar registers.

14. (Currently amended) An apparatus, comprising:

means for graphically selecting a plurality of corners within an original image projected as a distorted image on a projection surface using an input from a user through a graphical user interface; and

means for predistorting the original image to account for any keystone distortion responsive to the selecting, without a means for mechanically changing an angle of an image

plate in the apparatus, where the predistorted image exhibits no keystone distortion when projected on the projection surface;

means for vertically scaling and horizontally scaling the original image according to the plurality of corners.

15. (Original) The apparatus of claim 14 comprising:

means for aligning a center of the image with a center of the projection surface.

16. (Original) The apparatus of claim 15 where the means for distorting is responsive to the center of the image.

17. (Original) The apparatus of claim 15 where the means for distorting fixes the center of the distorted image with the center of the projection surface.

18. (Original) The apparatus of claim 14 where the means for selecting is capable of selecting two corners of the image.

19. (Original) The apparatus of claim 14 where the means for selecting is capable of selecting four corners of the image.

20. (Currently amended) An apparatus, comprising:

means for selecting a plurality of corners within an original image projected as a distorted image on a projection surface using a graphical user interface; and

means for predistorting the original image responsive to the selecting, where the predistorted image exhibits no distortion when projected on the projection surface;

where the means for selecting comprises a means for using an on screen display means to do the selecting; and

where the means for predistorting the original image comprises vertically scaling and horizontally scaling the original image using a vertical scalar and a horizontal scalar according to the plurality of corners, respectively.

21-22. (Cancelled)

23. (Currently amended) An apparatus, comprising:

means for selecting a plurality of corners within an original image projected as a distorted image on a projection surface using an input from a user through a graphical user interface; and

means for predistorting the original image to account for any keystone distortion responsive to the selecting, where the predistorted image exhibits no keystone distortion when projected on the projection surface;

where the means for predistorting the image comprises means for scaling the image;

where the means for scaling comprises means for vertically scaling the image according to the plurality of corners; and

where the means for vertically scaling comprises means for calculating vertical scalar registers.

24. (Previously presented) The method of claim 23 where the means for scaling comprises means for horizontally scaling the image.

25. (Original) The apparatus of claim 24 where the means for horizontally scaling comprises means for calculating horizontal scalar registers.

26. (Currently amended) An apparatus, comprising:

a user interface to allow a user to graphically select a plurality of corners of an original image projected as a distorted image on a projection surface using an input from a user through a graphical user interface;

a controller to predistort the original image to account for any keystone distortion responsive to the selection, where the predistorted image exhibits no keystone distortion when projected on the projection surface;

where the controller includes a vertical scalar and a horizontal scalar to scale the original image vertically and horizontally according to the plurality of corners, respectively.

27. (Original) The apparatus of claim 26 where the interface aligns the image with a center of the surface.

28. (Original) The apparatus of claim 26 where the interface is a graphical user interface.

29. (Currently amended) An apparatus, comprising:
a user interface to allow a user to graphically select a plurality of corners of an original image projected as a distorted image on a projection surface using an input from a user through a graphical user interface;

a controller to predistort the original image to account for any keystone distortion responsive to the selection, where the predistorted image exhibits no keystone distortion when projected on the projection surface;

where the controller comprises:

a vertical scalar to vertically scale the image according to the plurality of corners;

and

a horizontal scalar to horizontally scale the image according to the plurality of corners.

30. (Original) The apparatus of claim 29 where the controller sets scalar registers.

31. (Original) The apparatus of claim 30 where the vertical and horizontal scalars operate responsive to the scalar registers.

32. (Original) The apparatus of claim 26 where the plurality of corners is two.

33. (Original) The apparatus of claim 26 where the plurality of corners is four.

34. (Original) The apparatus of claim 26 where the controller generates a distorted image before projecting the distorted image on the surface.

35. (Previously presented) The method of claim 1 comprising:
graphically aligning a center of the image with a center of the projection surface using the graphical user interface;
vertically scaling the original image responsive to the graphically selecting and aligning by calculating vertical scalar registers;
horizontally scaling the original image responsive to the graphically selecting and aligning by calculating horizontal scalar registers.
36. (Previously presented) The method of claim 1, where the original image projected as a distorted image on a projection surface appears wider at the top than at the bottom.
37. (Previously presented) The apparatus of claim 14, where the original image projected distorted on a projection surface appears wider at the top than at the bottom.
38. (New) The method of claim 1, where predistorting the original image is a function of a horizontal rotation angle and a vertical rotation angle of the desired keystone corrected image.
39. (New) The method of claim 38, further comprising obtaining a sine function or a cosine function of the horizontal rotation angle.
40. (New) The method of claim 39, further comprising obtaining the sine function or the cosine function of the horizontal rotation angle using a precalculated look up table.
41. (New) The method of claim 1, further comprising horizontally scaling subsequent to vertically scaling the original image.